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AUTHOR Oxley, Diane
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ABSTRACT

The idea of organizing secondary schools into smaller units has gained support in the last decade. This guidebook is designed to support efforts to develop an effective small-unit plan for high schools. The first two sections highlight the benefits of small-unit organizations and identify the institutional barriers to implementation. Proponents of small-unit organization argue that it dispels alienation, supports a more coordinated and concentrated instructional approach, and offers teachers more input into the decision-making process. Challenges center around administration, assignment of students to core-curriculum teachers, student support, and teacher roles. The third section details the essential features of small-unit organization--instruction, student support, physical facilities, and unit management. The fourth and fifth sections provide examples of two schools that have successfully implemented small-unit plans--the Koln-Holweide Comprehensive School in Germany and William Penn High School in Philadelphia, Pennsylvania. Five tables and two figures are included. The appendix contains additional planning resources. (LMI)

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Organizing Schools Into Smaller Units: A Planning Guide

By Diana Oxley, Ph.D.

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Diana Oxley, Ph.D.

Temple University Center for Research in
Human Development and Education

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Introduction

The idea of organizing secondary schools into smaller units has gained wide support in the last decade. Small units have been found to dispel the alienating effect of large schools, support a more coordinated and concentrated approach to instruction, and allow teachers greater input in decision making. The challenge that educators now face is how best to fully and faithfully implement small unit organization — a process which necessitates the transformation of such traditional school features as centralized authority, special needs programs, whole-classroom instruction, and specialized teaching and counseling functions.

This guide is designed to support efforts to develop an effective small unit plan. In the first two sections, the benefits of small unit organizations are highlighted as well as the institutional barriers that reformers will need to surmount in implementing their small unit plans. The third section details the essential features of small unit organization. The fourth and fifth sections include descriptions of two schools that have successfully implemented small unit plans: the Koln-Holweide Comprehensive School in Germany and William Penn High School in Philadelphia, Pennsylvania. Finally, the Appendix contains references to additional resources for planning.

The Case for Organizing Schools Into Smaller Units

The educational critiques of the 1980s have created a tidal wave of interest in organizing middle and high schools into smaller units. Nearly every prominent analysis of secondary schools touted house systems, in particular, as a means of addressing key educational problems such as students' lack of engagement, a fragmented curriculum, and a remote school administration. Today, house systems and similar strategies for creating charter schools or schools of choice within a single school building have been made policy in school districts across the country: New York City, NY, Rochester, NY, and Columbus, OH, have adopted house systems at the high school level; Boston was one of the earliest districts to experiment with the plan in its high schools; Philadelphia has embraced a charter school plan for all 22 of its comprehensive high schools; and Philadelphia and Los Angeles have instituted small units at the middle school level.

The organization of schools into smaller units is not a new concept in school reform, as many veteran teachers can attest. House systems enjoyed a heyday in the 1960s and early 1970s as rapid growth in the size of schools engendered interest in humanizing them. Schools (usually high schools) were organized into clusters of a few hundred students with a proportionate number of faculty members. Students received most, if not all, instruction from their house teachers and participated in house activities that were created over and above school-wide extracurriculars. Today, in almost any large city one can find at least one school that was built at that time to

accommodate a house plan. However, few of these house systems survived to the present, in large part because a national trend toward broadening the high school curriculum necessitated increasing, not decreasing, the scale of schools. Now, when the shortcomings of a specialized high school curriculum are being widely noted, especially the shallow and unequal instruction of students, small unit organization has resurfaced with even greater potential for strengthening secondary schooling.

Indeed, educators now have good evidence that small unit systems and similar strategies represent a more lasting and fitting solution to problems of school organization. The current body of research and experience indicates that small unit organization directly addresses social, instructional, and administrative aspects of schooling that have been identified as primary weaknesses in our current system.

Small Units Dispel the Alienating Effect of Large Schools on Students

The most persuasive argument made for small unit plans is that they allow teachers and students in large schools to form bonds of familiarity, identification, and support. Small units do this both by limiting the number of teachers and students who interact with one another and by increasing the number of activities they share. Students respect and cooperate with teachers who know them and have repeated contact with them. Shared learning experiences promote a sense of community.

The capacity of small units to engender a sense of community is particularly significant considering that the alienating effect of large schools is, perhaps, more profound than ever. First, schools in the United States, urban as well as rural, are very large. High schools regularly enroll 2,000 to 3,000 students. Even U.S. elementary schools, which average close to 400 students, are about twice as large as those in other industrialized countries. Yet secondary schools of more than 500 – 600 and elementary schools of greater than 300 are difficult to defend on educational grounds. A sizable body of research indicates that large school size adversely affects student involvement in school activities, attendance, and school climate and contributes to higher rates of drop out, vandalism, and violence. Furthermore, the social and psychological support provided by families appears to have declined across all income groups, especially

among the urban poor. This fact suggests that today's students may be less able to cope in large schools.

Small Units Support a More Coordinated and Concentrated Approach to Instruction

The comparatively small group of cross-disciplinary teachers within a small unit finds it easier to share experience and act consistently across students' entire academic program than would a larger group of teachers, who are organized not around students but around academic disciplines and special needs programs. Small units support a student-centered approach to instruction as opposed to a curriculum-centered approach. Moreover, small unit organization lends itself to a deeper rather than broader curriculum since the small scale of units cannot support a highly diversified curriculum. Unit instructors concentrate their efforts on core subject areas, emphasize understanding and application of concepts, and add variety by creating different curricular themes and special projects that cut across subjects.

The interest in house systems of a few decades ago amounted to a brief flirtation, in part, because it occurred at the same time that educators attempted to address the needs of a more academically heterogeneous student body by diversifying the curriculum. Schooling had to be organized on a large scale to support a smorgasbord of course offerings and differentiated academic tracks. Now, however, these practices appear to be part of the problem rather than the solution. High school curricula are out of step with social and economic demands for all students to demonstrate a high level of mastery of basic skills. "Less is more" proponents have succeeded to a large degree in directing curriculum reform efforts to the creation of a stronger core curriculum. At the same time, accumulated evidence revealing the ineffectiveness of ability grouping argues against academic tracks and for increased integration of students with special needs. These developments, perhaps, more than any others, indicate that small unit plans will become an institutionalized feature of secondary schools.

Small Units Allow for Greater Teacher Input into Decision Making

The small unit plan creates a decentralized system of governance which gives unit leaders authority over unit activities. Unit leaders are better positioned for two-way communication with teachers, students, and their parents than centralized administrators. Furthermore, they are less burdened by administrative work and, therefore, can teach classes. The tension between administrators and instructors that normally exists in large schools with centralized management is less likely to develop between unit leaders and their staff.

Once again, the interest in dividing schools into smaller units intersects with other current trends in school reform. At a time when traditional school management structures have come under strong attack and school reforms such as school-based management and broadened input into decision-making have become the watchwords of the reform movement, small unit organization defines an alternative organizational structure that supports such reforms. The research on school size bolsters this claim, suggesting that small schools produce positive student outcomes via their favorable effect on school management, particularly on consensus building and staff involvement in decision making.

The Challenge of Implementation

The available body of knowledge suggests that the issue is not whether small unit organization is effective but how to implement it fully and faithfully. The experience of school staff who have attempted to organize their schools into small units indicates that successful implementation ultimately turns on the adequate accommodation of old and new school structures. Reorganization does not occur by addition of innovative practices but by transformation of traditional school structures and practices into new ones. This order of change is difficult and, in the end, may elude even the most motivated staff.

This section serves to orient educators to the features of traditional school structure that will need reshaping to accommodate a small unit plan. Figure 1 depicts the key features of traditional schooling that must be transformed and the direction for these changes.

Administration

A requisite yet problematic feature of a small unit plan is unit autonomy. If small units are to realize their full potential for permitting staff to respond to students' needs in an immediate and flexible manner, unit staff must be granted sufficient authority to make a wide range of decisions locally. Unit staff must be able to address discipline problems and parents' concerns and organize instruction and guidance. In order to accomplish this, at a minimum, functions that are normally organized on a school-

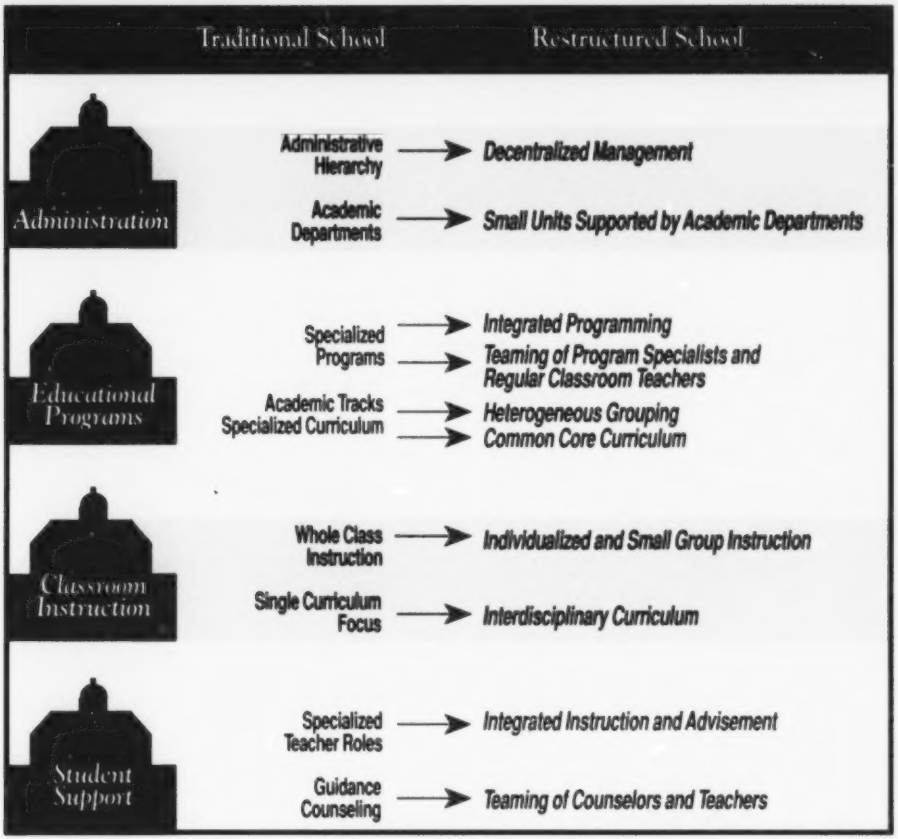

Figure 1
Organizing Schools into Small Units: Directions for Change

wide basis must be carried out, instead, within each unit. For example, deans and grade advisors, who serve students at large, perform roles that unit staff must assume if they are to form productive relationships with their students. Similarly, academic department heads make faculty assignments for which unit leaders must take responsibility if they are to chart and maintain a course for their unit. Finally, units and unit leaders replace academic departments and heads as the basic organizational unit for instruction. Subject area heads continue to play a leadership role in staff and curriculum development.

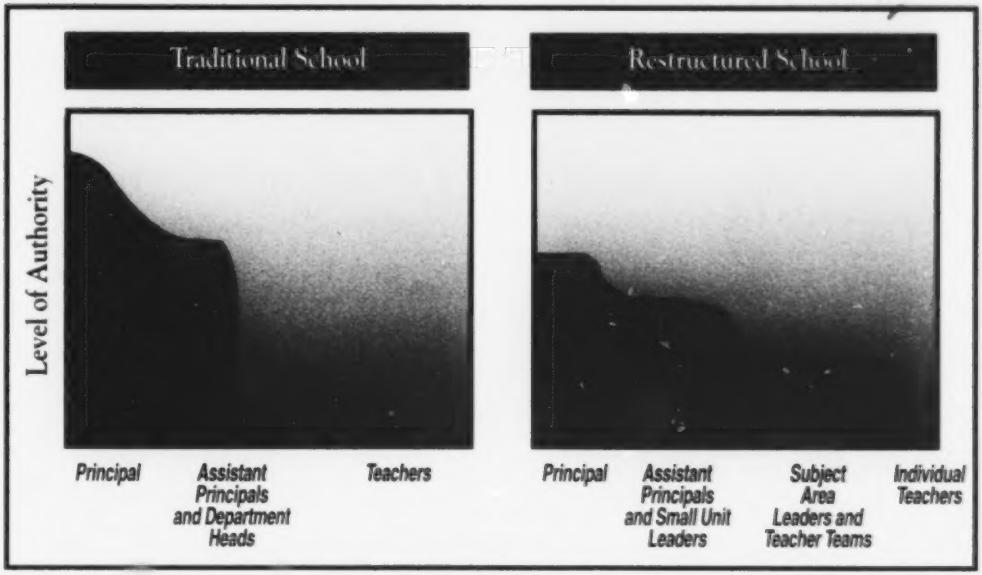

Figure 2
Implications of Small Unit Organization for the Distribution of Authority

Authority is distributed differently under traditional and small unit organizational plans (Figure 2). In traditional schools, authority is concentrated in the hands of the principal and a small group of administrators, including academic department heads. In schools with small unit plans, authority is decentralized: Unit leaders, in close collaboration with teacher teams, act on issues arising within each unit. As the figure makes apparent, authority is much more evenly distributed across school staff under small unit plans.

Educational Programs and Classroom Instruction

The central requirement of a small unit plan is the assignment of students and at least core subject area teachers to each unit so that they can work together exclusively. Without this change, no adequate basis for close interaction among staff and students exists, and coordination of instruction across subject areas becomes impractical. Yet school staff are seldom able to satisfy this requirement because students are sorted into

so many specialized courses (e.g., remedial, gifted, repeater), programs (e.g., bilingual, special education), and academic tracks that they have to be pooled across units to fill these classes to acceptable levels. As a consequence, teachers as well as students have only partial assignments to units, and the small unit plan loses most of its potency.

Effective small unit plans necessitate assigning as many students with special needs as possible to regular classes, teaming program specialists with regular classroom teachers, and using individualized and group instructional methods. Such practices represent a profoundly different approach to teaching than is found in traditional schools. Because of this strategy, successful small unit plans also require extensive staff training and curriculum planning. Staff must learn not only how to depart from whole-class instruction to meet students' diverse needs, but they must also work with other teachers whose skills and subject area specialization are needed to complement and extend their own.

Student Support

Small unit organization has the same implications for specialized educational programs as it does for student support services: they must be integrated into regular classroom instruction. Teachers normally confine their activities to instruction, while grade advisers and guidance counselors help students negotiate course requirements, class schedule conflicts, and personal problems. But the fragmentation of these services reflects the alienating and, ultimately, ineffective nature of schools that are organized on the principle of bureaucratic specialization. The regular classroom teacher's assumption of a guidance role, perhaps more than any other change, goes to the heart of the meaning of small unit organization. The small unit approach assumes that successful instruction depends on teachers' ability to foster the social conditions needed for learning to take place. While teachers need to serve as the primary persons who help students cope with school, they need not do so in an unsupported fashion. Under small unit plans, teachers rely on their instructional team, unit leader, and routine teacher support provided by trained guidance counselors to assist them in shepherding students through school.

Teacher Roles

The changes in traditional school organization described above have broad implications for how teachers function. Small unit organization requires teachers to assume roles that support their primary task of instruction in order to make school a more coherent and meaningful educational experience for students. Figure 3 summarizes the kind of changes in teachers' roles that reorganization effects. Teachers cease to instruct students in isolation from their other teachers. Instead, teachers share a group of students in common and co-develop an instructional plan for this group of students. Teachers specialize in a particular subject area but also acquaint themselves with the curriculum of other subjects in order to show students the real-world interconnectedness of these subjects. Teachers do not rely primarily on outside experts for continued professional development. Rather, they learn from each other, engage in joint problem-solving, and provide material assistance. Finally, teachers take on the role of student adviser; they facilitate students' socio-emotional, as well as academic, development.

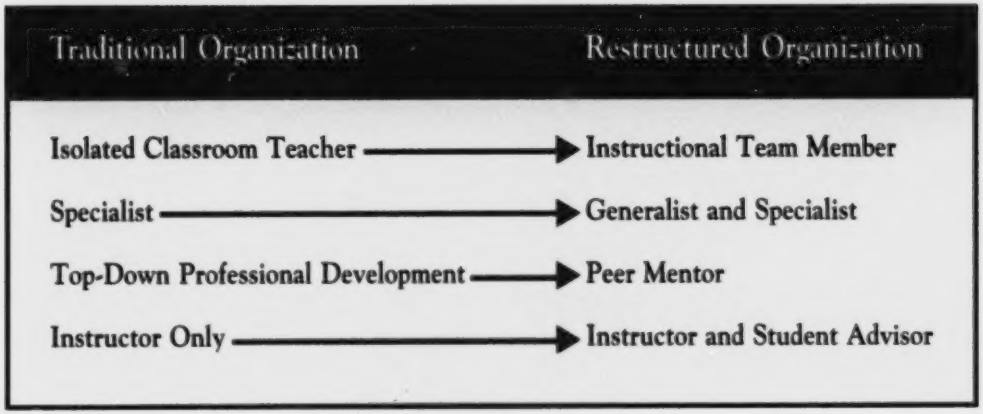

Figure 3
Implications of Small Unit Organization for Teacher Roles

Essential Features of Small Unit Organization

The organizational requirements for small unit schooling are detailed below and are listed in Table 1. They represent a highly interrelated set of features; each supports the others. The omission of one feature seriously weakens the overall effectiveness of the small unit approach. However, these defining elements do not amount to a rigid formula that leaves little room for creativity. They can yield small units of quite different designs: under a horizontal plan, each small unit contains students at a single grade level while a vertical plan organizes a number of students from all grade levels into each unit. Small units can be organized around different curriculum themes or use the same curriculum. Small units can operate as separate schools under a principal-manager or concentrate on core instruction, leaving electives and extracurriculars organized on a school-wide basis.

Instruction

Small Unit Structure

* ***All students and staff are organized into units of not more than 500 students for instruction.***

Staff and students should be assigned to a small unit in numbers sufficient to allow staff to teach exclusively within it. At the same time, the unit must be kept small

enough to allow staff and students to become well acquainted. Units should be no larger than 500, a frequently suggested maximum size because it is possible to know everyone by name when there are fewer than 500 people.

A common pitfall of small unit organization is the failure to organize *all* students and faculty into the small units. The difficulty of including students who belong to categorical programs or special classes in the small unit plan often leads staff to leave them out altogether or to simply treat the program as its own unit which amounts to the same thing. The existence of educational programs outside the small unit plan has a very serious destabilizing effect. It increases organizational complexity to the point that the combination of program, class size, teaching load, and other constraints makes it impossible to assign teachers exclusively to a small unit — a requirement of small unit organization that should not be compromised.

* ***Small units are not based on differing abilities.***

Students should be assigned to small units on the basis of random selection, student choice, or another method that ensures a heterogeneous mix of students with respect to achievement. Small units should not be organized around existing academic tracks or categorical or other specialized programs. Such units heighten the social as well as instructional segregation of these students. Their effect is to create destructive social comparisons, to perpetuate the practice of tracking which has been shown to be ineffective, and to limit the use of promising educational strategies like peer mentoring and cooperative learning.

* ***Students remain in the same small unit across years.***

Once assigned to a unit, students and teachers remain in it for the length of their stay at the school. In this way, teachers can capitalize on the knowledge that they acquire about students from year to year and vice versa. Teachers can also monitor students' progress more effectively. They are in a much better position to identify negative new trends in behavior and academic performance and to intervene before such changes actually result in failure.

The ability of a small group of teachers to follow students across years strengthens the system of accountability for student success. Under the present system, teachers have little influence over what their students' previous and subsequent instructors do. They assume responsibility for only a small segment of their students' education. There is no one teacher or group of teachers to assume responsibility for the students' education as a whole. While many are convinced that educational improvement requires extended instructional time, it is also clear that teachers can increase the efficiency with which they instruct simply by organizing themselves to provide greater continuity of instruction to students.

* ***The curriculum is common to all students.***

Unit staff employ a single curriculum for all their students. They integrate students in special education and other programs into regular classes. Staff avoid organizing the heterogeneous mix of students in their unit into homogeneous groups in order to create a shared learning experience for students – one of the most important ingredients of a cohesive, learning community. In any event, small unit size works against sorting students into smaller, homogeneous classes just as the large size of secondary schools is a requirement for it. The small numbers of students in each unit make it difficult to fill specialized classes to an acceptable level.

Sub-unit Structure

* ***The unit is divided into instructional sub-units containing an interdisciplinary team of teachers and their students.***

The division of schools into small units creates an organizational climate conducive to teaching and learning that is not easily achieved on a school-wide basis. However, it does not go far enough. The sub-schools, themselves, must be divided into instructional clusters composed of an interdisciplinary team of teachers and a group of students shared in common. The organization of teachers across subject areas represents a student-centered approach to education that is concerned with students' intellectual development as a whole. It complements the traditional academic department structure of schools.

Furthermore, the team-small group structure gives teachers greater flexibility in organizing instruction. Since each team provides most if not all their students' instruction, team members can arrange class time to accommodate extended instruction, field trips, and projects without upsetting the school's master class schedule.

* ***Teacher teams coordinate instruction across subject areas.***

The team-small group stands in marked contrast to traditional, curriculum-centered education which forces students to take a series of unrelated courses. Interdisciplinary teams can coordinate instruction to give students the opportunity to exercise facts and skills they have learned in one class in another. Teams also facilitate teaching concepts and skills in the context of engaging, real-world endeavors which, by definition, ordinarily involve diverse abilities. Finally, the cross-disciplinary team allows for joint problem solving and coordinated intervention in relation to individual students.

* ***The day or week is structured to give teams time to meet.***

In order for team members to coordinate their work, they must be able to find time during the school day to meet. Daily meetings may be unnecessary, but team members' daily schedules need to be coordinated so that they can meet as often as conditions warrant. Team members must be able to schedule their lunch and preparation periods at the same time so that they can use them occasionally for team meetings.

* ***Teacher teams meet with parents.***

Where large, impersonal schools frustrate teachers' efforts to involve parents in their children's educational program, smaller, sub-schools have greater success. It is even more important, however, that teams have access to parents and vice versa. Teams often benefit from parents' support and assistance in developing and carrying out interventions with their child. Conversely, parents want to have contact with their children's teachers as opposed to other school officials who are not as familiar with their children. Teamwork also often allows parents to discuss problems or concerns with one teacher as opposed to having to contact all of their children's teachers. The longer the period of time that teams stay with students (one year, two

years, etc.), the more likely it is that parents will be interested in interacting with teachers.

* ***Teacher specialists work with instructional units.***

Teacher specialists (such as Chapter 1 reading and math teachers and special education instructors) work with each interdisciplinary team to provide support for regular classroom teachers and designated students. Specialists function as peer coaches: they observe classrooms, engage in joint problem solving, model techniques, and team teach. Specialists also work directly with designated students in their regular classrooms, not necessarily in isolation from regular students.

Student Support

* ***Instruction and student support roles are integrated.***

Traditionally, student support functions are carried out by guidance counselors and by teachers such as deans and grade advisors who have assumed responsibility for student discipline or advisement in place of some or all of their teaching assignments. The staff who provide these services to students are seldom the ones who teach them. Under the small unit plan, instructional team members are much better positioned to provide academic advisement as an integral part of the responsibility they have for their students' overall progress. Each instructional team plans and implements a coordinated program of instruction for their students and, by extension, monitors their progress, provides for a smooth transition from one year to the next, and resolves behavioral problems. In this way, instruction, guidance, and discipline are woven tightly together into a coherent effort on the part of students' teachers.

Integrating instruction and student support has two other beneficial effects. Teachers who provided support services can return to the classroom full-time, thereby reducing student-teacher ratios in classrooms. Guidance counselors are freed up to concentrate on services that they are uniquely prepared to carry out: student counseling. Guidance counselors usually find, to their dismay, that most of their time is taken up by student scheduling problems. Relieved of such bureaucratic demands, they are able to deal with students' more serious personal and family problems.

* ***Each teacher serves as an advisor to one class of students in his/her unit.***

To insure that no student slips through the cracks, each teacher serves as an exclusive advisor to one of the classes of students within his/her instructional unit. Assigning all of the students in a class to one advisor facilitates scheduling time for student advisement. Teacher advisors assume ultimate responsibility for guiding and supporting their students' all-around progress. Their responsibility entails collecting information about their advisee from the rest of the team, maintaining advisee records, communicating with parents, identifying problems early, and coordinating the team's efforts to meet advisees' special needs.

* ***The day/week is structured to allow advisors to meet with their advisees.***

Time is set aside to allow teachers to meet regularly with their advisees. Schools often have a homeroom period for school announcements and attendance-taking that can be utilized more effectively as an advisement period. Teachers may require individual sessions with students, but meetings with small groups or the whole class may also be appropriate at times. Advisors should touch base with their advisees at least once each marking period.

* ***Guidance counselors work with instructional units.***

Guidance counselors work with particular instructional units so that they can provide continuity in their counseling of students over time and can coordinate their work with students' teachers. The traditional division of instructional and counseling functions often fosters divisiveness between teachers and counselors: each views students through different lenses and sometimes makes incompatible recommendations for students. Guidance counselors can help bridge this gap by consulting with teacher teams about how to respond appropriately to particular students' socio-emotional problems and by sharing general strategies for managing student behavior.

Co-curricular Activities

* ***Co-curricular activities are organized within each unit.***

A program of unit-level co-curricular activities furthers the small unit plan in several ways. Unit assemblies, productions, projects, field trips, and other extra-

classroom activities strengthen students' sense of membership in a separate and distinct sub-school. Such activities allow students and teachers within the unit to become acquainted with one another in non-classroom contexts and, consequently, to build multidimensional relationships. When parents are invited to participate, these activities also allow parents to interact with teachers on a broader basis that may help strengthen the rapport between them. Finally, a co-curricular program advances student-centered instruction by multiplying the opportunities students have to assume an active role in the learning process and by diversifying the format used to teach them.

Physical Facilities

* ***Unit classrooms and office space are located in adjacent areas of the school building.***

At a minimum, physical space must be allocated to each unit to allow students to take a core set of classes in one area of the building. Ideally, staff need to have office space in the same area to maximize their accessibility to students and one another. In this way, students have a home base, an area in which they can congregate and catch up with teachers. At the same time, students can still travel outside the unit area to take advantage of specialized facilities for science, music, art, etc. While these physical accommodations are minimal, they are crucial. School buildings are often so alienating that students do not even have lockers to call their own. Having a school-sanctioned area of the building that students can call their own satisfies basic security and social needs in a manner that supports rather than disrupts learning.

Unit Management

* ***Each unit is coordinated by an instructional leader.***

Each unit is headed by a teacher who can function as an instructional leader for all the teachers in the unit. The instructional leader assumes responsibility for coordinating instruction within the unit so that the academic program is cohesive and the efforts of individual teachers are consistent with one another. The instructional leader facil-

itates the development of unifying curricular themes, projects, and courses; identifies training needs and implements a long-range program of staff development; and provides direct assistance to instructional teams on a daily basis.

* ***Unit coordinators are members of the school governance body.***

Unit coordinators represent the interests and needs of their units on the school governance body. They help formulate school policy along with the principal, assistant principals, and subject area heads. As sub-school leaders with responsibility for coordinating the entire academic program of their students, their authority is second only to that of the principal. Academic department heads are normally the only teachers who wield authority and who occupy a place in the principal's cabinet. However, department heads have responsibility only for instruction in particular subject areas, not for the entire academic program of particular students. As a consequence, unit coordinators' authority must equal or excel that of subject area leaders if the school is to implement a coherent, whole-student approach to education in place of a piecemeal approach. Without such authority, unit coordinators are not in a position to maintain the integrity of their units.

Koln-Holweide Comprehensive School — Grades 5–10

Koln-Holweide is a German secondary school. It contains grades 5–10, plus an upper school of grades 11–13 for college-bound students. Koln-Holweide is designed as a comprehensive school, that is, a school that serves the needs of all secondary school-age children, after the style of U.S. public schools. German comprehensive schools provide an alternative to the traditional three-tier system of schooling that channels fourth grade students into three different types of schools depending on the propensity they have exhibited for going on to college. The comprehensive schools comprise about 15% of all public schools in Germany.

As in the U.S. in the 1980s and 1990s, Germany found in the 1960s that its traditional form of schooling did not produce enough well educated individuals to drive its economy. Educators responded by creating secondary schools whose mission was to help all elementary school children reach high levels of academic mastery. They did so within a highly centralized and regulated system of education operated by federal and state ministries of education. The comprehensive schools operate under the same regulations that other schools do. In spite of this, these schools manage to organize themselves in a radically different manner than the other schools.

Koln-Holweide presently serves a student body of 1,600, about 25% of whom are immigrants (mostly Turkish). Many students are from poor, single-parent families. It

is important to examine Koln-Holweide because its large numbers of students from lower social-economic and differing cultural backgrounds put the comprehensive school organizational structure and methods of instruction to a stringent test. With very few exceptions, all students complete 10th grade on time, while nationally 14% of students drop out. About 40% do well enough to enter the upper school. The rest leave school to enter professional and vocational schools or three-year job apprenticeships.

Small Unit Structure

Koln-Holweide is organized like a horizontal house system. Each grade level is organized as a semi-autonomous unit. Each unit is comprised of approximately 225 students and 18 – 22 teachers who remain together across all six years of school. The unit is headed by a grade leader, who is relieved of six periods of instruction (¼ of the class load) to coordinate instruction and provide representation on the school governance council.

Sub-unit Structure

At each grade level, teachers are organized into three teams of 6 – 8 teachers, depending on the number of part-time teachers involved. Each team is responsible for the education of three classes of students. Class size is normally 30 students (22 if special education students are placed in the class). The team and its students remain together across grades 5 – 10.

In the fifth grade, students are assigned to a team on the basis of the goal to distribute disabled, Turkish, slow and fast learners, and males and females equally across the three teams. The grade level leader, in collaboration with the school psychologist and a social worker, determines these assignments. With only minor adjustments, these groupings are maintained across grade levels.

A core tenet of the team approach is that a close, stable relationship between teachers and their students is a necessary condition for effective education. Part of the educational program is devoted to teaching students how to interact constructively,

to resolve conflicts, etc. Rarely is the reassignment of a student or teacher to another team the means used to effect a better functioning arrangement. Teachers' multi-year relationship with students allows them to gain extensive knowledge of students and their families. Teachers feel that they are able to detect the onset of student problems, like drug use, and to initiate a response that may help students resolve such problems before they become more serious.

The team constitutes the school's most potent educational tool, not only because each team has an exclusive arrangement with its students, but also because the team exercises a high level of autonomy in providing instruction. Team members devise each year's schedule, decide who will teach what courses, and plan parent activities. However, teams do not function in isolation. They coordinate instruction with other teams at the same grade level, and teachers collaborate regularly with other teachers in their academic department across the school. Nevertheless, the team has enormous flexibility in organizing instruction on a week-to-week and year-to-year basis.

The Team

Six full-time equivalent teachers comprise each instructional team. In practice, as many as eight teachers, some of whom do not teach a full load, may belong to the team. Part-timers include the principal, assistant principals, and grade level leaders, all of whom carry a reduced teaching load, and teachers who are hired on a part-time basis only.

As a team, the teachers must be able to cover all their students' subjects: languages, social studies, math, science, shop, sports, art, and music. Since each team only has three classes of students, teachers fulfill their contract by teaching two academic subjects and by covering additional class periods (homeroom, independent learning, project work, or a third subject) and lunchtime activities. Unlike U.S. teachers, German teachers have training in two subject areas.

Curriculum and Instruction

Like U.S. students, German students take math, language arts (German), science, social studies, a creative arts elective, and physical education each year. German

students also have a shop, religious education, and hefty foreign language requirements: In 5th grade, they begin English; and in the 7th and 9th grades, they may add a second and third foreign language. The German education ministry dictates curriculum content in terms of what knowledge and skills should be mastered at each grade level, as well as the testing schedule. Tests are given six times a year in foreign languages, German, and math.

Special Instructional Programs

Mentally disabled children and students for whom German is a second language are not programmed separately for instruction. Limited academic tracking is carried out in the higher grades.

Academic tracks

Academic tracks do not exist in grades 5 and 6. Contrary to school philosophy, however, national law requires students to be grouped into higher and lower math and English language classes in grades 7 – 10. The structure of the team-small group is not altered to comply with these requirements. Teams create and instruct a fourth, lower track class in math and English. Students are integrated with all other students in the remainder of their classes. Participation in the higher tracked courses and above average grades are the entry requirements for the upper school.

Special Education

The traditional special education program was dismantled in response to parents who requested that Koln-Holweide continue their elementary school's practice of mainstreaming children. Disabled students, about 90 in all, including those with learning and behavioral problems and physical and intellectual disabilities, are mainstreamed at Koln-Holweide. One special education instructor is assigned to each team with disabled students, two in the case where students' disabilities are severe. Not every team has disabled students, however. At least three must be assigned to a class to reduce its size to 22 students. As a result, disabled students are concentrated in about half of the classes. Special education teachers work very closely with their team and

help students in the context of their regular classes. In addition, classroom aides, who are sometimes adults performing alternative military service, assist special education students.

German as a Second Language

Turkish students in grades 5 – 8 receive four periods per week of instruction in their native language. In grades 9 and 10, all students may take a second or third foreign language in addition to the English they began in grade 5 and the French that they may have added in grade 7; Turkish is offered as one of three elective foreign language courses, which also include Spanish and Latin.

Classroom Instruction

What distinguishes the German comprehensive school curriculum is not so much the content as the manner in which it is taught. Students work almost entirely in groups, and subject area instruction is mixed with several periods of advisement, free learning, and special projects not tied to a specific subject.

Table groups

In each class, students are organized as table groups. The groups are heterogeneous in terms of gender, ethnicity, and ability. The students belong to the same table group across the several courses they take for the entire year. In this way, students have ample opportunity to learn how to work effectively with the others in their group; they do not lose time having to learn how to work with a different group in each class. Time is set aside to teach students how to work in groups. Table groups meet once a week to tackle problems they encounter in working together and twice a year to take stock of the progress their group is making. Group members are expected to help each other and to contribute to the group's mastery of the work. Groups work independently of the teacher during much of the class. Their work assignment for a two-week period of time is often posted in the classroom. While groups work on an assignment during the period, the teacher may work intensively with a group who failed the last test or move from group to group to check on their progress.

Assessment

The German central ministry of education requires teachers to test students six times a year in several courses. At each grade level, the teachers of a given subject develop and use the same test. Students who fail the test use their "free learning" time (or open periods) to work on the covered material with their teacher until they are ready to retake the test. In this way, all students have the opportunity to master the work, and none has to repeat a course or grade.

Instructional Organization

Koln-Holweide has an extended school day, 8:15 a.m. to 4:15 p.m. German students spend about the same amount of time in class per week as U.S. students; the extra time is allocated to staff meetings, lengthy lunchtime activities, and a mid-morning break. On a daily basis, the work of teaching and learning at Koln-Holweide is pursued in a more varied and less concentrated fashion than in U.S. schools. Over the year, however, German students receive more hours of formal instruction than U.S. students since their school year is much longer.

Student Schedule

Since each team covers all of its students' courses, the team is free to organize the class schedule as it wishes. Some teams begin the week with a free learning period devoted to orienting students to the week's work and end the week with a special activity organized by one of the classes. Students' schedules vary across the week and allow for several double periods of instruction in subjects including physical education as well as periods for individualized work, tutoring, and special projects. Teachers can offer this variety of instructional periods because they are not required to provide five periods of formal instruction in each subject. The precise number of periods varies with grade level and subject. (See Table 2 for a sample 9th grade student class schedule.)

Homeroom/tutorial

A pair of teachers, usually a male and a female, assumes one of their classes of students as a tutorial group. They keep attendance and other records on students and

provide individual advisement. The pair meets with their students for two periods a week. One period is devoted to human relations and sex education and the other to general student concerns. Tutorials are also called circle groups because teachers and students arrange themselves in a circle to facilitate face-to-face interaction. The circle also signals the operation of a kind of egalitarian group process to which teachers and students alike must adhere; both must observe the same set of rules governing verbal interaction.

Free learning

Teachers may also have responsibility for supervising students' free learning periods. Students have free learning several periods a week. These are unstructured times devoted to students' individual needs and interests. The teacher may help students do their class assignments, advise students individually, tutor students who failed a test or fell behind in a class, or facilitate students' pursuit of special interests.

Free learning is an important innovation for several reasons. It provides some balance to the comprehensive schools' dominant focus on group and cooperative effort. It also introduces greater diversity into a secondary school curriculum which has a fairly restricted set of electives. Finally and perhaps equally importantly, free learning allows teachers to work with students in other areas than the ones they teach, again helping to coordinate and unify the work of the team.

Special topics

A third classroom activity for which teachers may have responsibility is special topics. Students spend six periods a week working on a topic they choose from a list of subjects that is geared to acquaint students with the community and issues in living. Students explore new areas of knowledge and learn how to apply their academic skills to real-world enterprises. Students work on one topic for six weeks before beginning a new one. One-third of the time spent on special topics is devoted to group project work. Students are sometimes organized across classes for these topics and sometimes across teams.

Teaching Schedule

German teachers have a contractual obligation to teach 24 periods per week, very much like U.S. teachers who normally teach five classes per day or 25 periods per week. Unlike U.S. teachers, however, German teachers' daily schedules are highly varied. Teachers do not instruct the same types or number of classes each day. On Tuesday afternoons, no classes are held so that teachers may attend faculty meetings. Teachers also have many periods that they are free to use as they like, for example, to correct tests or go to the dentist. (See Table 3 for a sample 9th grade teacher schedule.)

Team meetings

Tuesday afternoon periods 8, 9, and 10 are set aside for teacher meetings. Students are dismissed from school for this time. Teams use every other Tuesday afternoon to meet.

Department meetings

Teachers in the same subject area meet every six weeks. These department meetings are held to explore topics of interest; for example, the faculty might sponsor a speaker concerning a current event that is relevant to social studies, or they might discuss research findings on a new instructional strategy. A teacher in each subject area is elected to organize these conferences; he or she is relieved of one period of instruction for this purpose. Subject area teachers at each grade level convene after the all-grade meeting. They meet to develop tests and to discuss the results of these tests. The teachers explore reasons for why certain teams or classes performed differently and decide what should be done to improve the work of the lower performing groups.

Student Support

One school psychologist and two social workers, one of whom is half-time, serve the 1,600 students of this school. The very high ratio of students to guidance counselors in American schools is also found in German schools. But in Koln-Holweide the extremely high level of support that teacher teams provide their students reduces the need for student support staff. Moreover, guidance staff operate differently in Koln-Holweide. The school psychologist, in particular, occasionally has worked

closely with the principal and assistant principals: She helped them plan school governance meetings and organize staff development programs. She also holds a weekly counseling conference at which representatives of each team discuss problems they have with particular students and consider ways to further students' social development.

Extracurricular Activities

Students are able to participate in a variety of activities during the long lunch break. After a 20-minute lunch, students still have a full hour to mingle with students from all grade levels in arts and crafts, disco dancing, sports, etc. Parents organize some of these activities, and, as already indicated, some teachers take responsibility for activities as part of their 24-period teaching obligation, e.g., supervising the disco. Lunchtime activities not only give students a needed break, they allow students to mix with others of different ages.

Physical Facilities

Koln-Holweide was not architecturally designed to accommodate the small unit system. Each team, however, has a group of adjacent classrooms in which it holds most of its classes. Students travel outside the area to classes that require special facilities, e.g., science laboratory, theater, art room, gym. Sandwiched in between some classrooms are small rooms that give each team a place to gather and to store materials in proximity to their classrooms.

School Management

School governance is consistent with the school's small unit organization scheme. As stated above, one teacher leader at each grade level (5 – 13) represents the other teachers at his/her level on the school governance council. The coordinators of the upper school (grades 11 – 13), the special education mainstreaming program, and lunchtime activities and the school administrators comprise the rest of the council. The council meets each week for 1 ½ hours.

Professional Development

New and transfer teachers receive no prior training in the team-small group model before they begin teaching at Koln-Holweide. Teacher teams are responsible for introducing new team members to their methods. The stable, cohesive nature of these teams along with the regular occurrence of team planning meetings provides a high level of inservice support for new teachers. Department meetings (both those held every six weeks and an all-day conference held once a year) and the counseling conferences also provide inservice opportunities for continued professional development.

William Penn High School — Grades 9–12

William Penn High School is located in North Philadelphia, an area which has experienced economic decline over the past few decades. The school was built to accommodate 2,500 students but has never reached that number. It currently serves 1,800 students, nearly all African-American. A large majority are poor and qualify for the free lunch program. William Penn has a large Chapter 1 and Special Education population.

William Penn is one of 22 Philadelphia School District high schools involved in school-wide restructuring. The thrust of these reforms is to organize each high school into a collection of charter schools, each with its own staff and curricular focus. William Penn has three sub-schools, two are magnet programs which draw students from across the district on the basis of test scores, although these requirements are modest. A third sub-school, the House of Masterminds, was developed recently to serve the general population. More than one-half of these students failed 9th grade; attendance was 80%. In response, House of Masterminds staff devised an educational program that departs sharply from the traditional high school format. Staff maintain high standards but organize instruction in a much more coherent and engaging fashion.

Small Unit Structure

The House of Masterminds is designed as a vertical house. By 1994, it will contain all grades, 9 – 12, and as many as 500 students. At present a staff of 11 teachers serves

approximately 250 students in grades 9 and 10. A teacher coordinator manages House activities and teaches a reduced class load in the House.

Sub-unit Structure

A team of four teachers shares four classes of students in common at each grade level. Teams remain with the same group of students for two years. In order to limit the number of classes taught by each teacher to four instead of the usual five, the team teaches an additional course to their students. The team provides instruction in five of the six subjects that students take: English, math, history, science, and African-American Studies. Each team member teaches each class his/her specialty for a total of 20 periods per week and, in addition, African-American Studies for five periods. In this way, teachers fulfill their five-class load (25-periods per week) teaching requirement. Students also take one elective from teachers outside the House.

Curriculum

High school graduation requirements include four credits of English, three credits each of math, science, and social studies, two of arts, one of physical education, one-half of health education, and five of electives. In the 9th and 10th grades in the House, students take English, math, science, and social studies as a group of subjects to which reading, writing, and math instruction are common; these skills are taught and reinforced in all of these core subjects.

Each charter has its own identifying academic theme and may also require students in it to take courses that convey the theme. The House of Masterminds' theme is African-American culture. It is taught as two half-credit bearing courses in both 9th and 10th grades. English and social studies teachers presently teach one course. They jointly developed a curriculum that extends their regular English and social studies instruction to include African-American literature and history, respectively. They teach in a coordinated fashion such that students learn periods of African-American history in the context of literature written by African Americans during corresponding eras. Math and science teachers facilitate students' development of social and psychological skills that enhance self-esteem and positive racial identity.

Special Academic Programs

Chapter 1 Reading

A specialist with training in reading remediation serves the House of Masterminds. She collaborates with the interdisciplinary team at each grade level, providing assistance in two ways: 1) helping teachers develop strategies for improving students' reading skills in the context of core subject areas; and 2) directly assisting Chapter 1-eligible students in the classroom.

Special Education

Twenty-four students who have been assigned to the special education program are mainstreamed within the House of Masterminds. They take all of their core courses with House students. A maximum of three students are assigned to each class. Before they enter high school, special education students are identified for inclusion in the House from among the larger group of special education students in the 8th grade at William Penn's primary feeder middle school. A William Penn special education teacher and middle school staff select students who would be appropriate for the House, primarily students with mild to moderate disabilities. In this way, the students move directly into regular classes at the beginning of their 9th grade year without having to be placed first in the special education program for an assessment period.

Academic tracks

Staff do not organize students by ability during their 9th and 10th grade years. After 10th grade, students who have not completed all their coursework are evaluated for promotion versus assignment to another charter or program. Staff exercise some selectivity in assigning incoming 9th graders to the House: 75% of students must have attended their middle school at least 70% of the time; 25% of students who do not meet this criterion are also admitted.

Classroom Instruction

Adaptive Instruction

Staff have implemented adaptive instruction, an individualized approach to instruction that goes hand in hand with integrating students with special needs in

regular classes. The strategy rests on the assumption that all students have unique strengths and weaknesses that respond better to individualized and group instruction than exclusive reliance on whole-class instruction. Teachers use a variety of methods of organizing instruction and give students a large degree of responsibility for initiating and managing their own work. Students work in groups; they work at learning centers organized around different themes or problem areas. At each center, students may elect to do a particular activity to learn a given skill or master a certain set of facts.

Assessment

Teachers use a combination of traditional and innovative methods of assessing student progress. In addition to tests, teachers require students to undertake projects and assemble portfolios of their work for exhibition at year's end. At the end of each marking period (November, January, April, and June), students who have not mastered the material covered receive an Incomplete until such time as they have completed it successfully. Students who receive an Incomplete at year's end may enter summer school to try to complete the work. In any event, they have until the beginning of their 11th grade year to complete the 9th/10th grade curriculum without receiving a failing mark. At the beginning of 11th grade, the team evaluates their academic record and recommends that they continue in the House or enter another charter or program outside the school.

Instructional Organization

Student Schedule

Instruction is organized to give teachers flexibility in the formats they use to pursue different course objectives. Class scheduling is also mindful of students' need for variation in their daily schedules to make the week less monotonous and more consistent with daily and weekly fluctuations in their attention levels.

English/social studies and math/science blocks

For the first four days of the week, students have a three-period block of time each morning for math/science or English/social studies instruction. Each block of time

includes a double period of one subject that varies each day. In the afternoon, when students' interest may begin to wane, they have just two periods of instruction in the two areas not covered in the morning.

Seminar

On Fridays, the entire day, except for one period of electives, is devoted to seminar, which takes several different forms in accordance with students' needs and interests. Since students have already had five periods of each of their core subjects in the first four days of the week, they are free to pursue a topic of their choice in the morning and do either remedial or enrichment work in the afternoon.

A.M. topics: Some teachers offer a hands-on type of activity that allows students to delve into one of their subjects more deeply. For example, English teachers sponsor creative writing and community newspaper projects, and the social studies teachers explore African-American history topics with students. Some teachers work on social problem-solving skills with students or lead community service projects.

P.M. remediation: Students who have not successfully completed past coursework are given materials designed to guide students through blocks of the standardized curriculum that they must master. Teachers divide their curriculum into blocks and develop a packet of materials for each block so that students can make up uncompleted work in a step-by-step and targeted fashion. (See Table 4 for a sample 9th grade student schedule.)

Teacher Schedule

Student conferences

School-wide, a 20-minute advisory period falls between second and third periods. During this time, each teacher meets with his or her advisory class to take attendance and make announcements. In the House, teachers conduct student conferences during advisory period on Mondays. Teachers' classes are scheduled so that they have a double period of instruction with their advisory class on Mondays immediately following the advisory period. This arrangement allots to the advisory period the additional ten-minute period that students ordinarily use to move between second and third and third and fourth period classes. The 30-minute advisory gives teachers a more reasonable length of time to meet with students individually to appraise their progress (Table 5).

Teachers use the conference to review a student's Progress Form which identifies areas of difficulty in any House course and the kinds of remedial actions that will be taken to address them. Remedial action may involve a meeting with the student's parent during the teacher's after-school conference period held by all teachers one day each week to comply with their contract. Teachers have access to a computerized student data base that is maintained by the team to facilitate advisement. Each team member enters performance scores and notes for each of their students.

Planning periods

Teachers do not have additional team planning time built into their schedules. Each team does, however, share back-to-back lunch and class preparation periods in common. They are able to use these periods to work together as need dictates.

Student Support

Above and beyond the guidance provided by the teacher advisors, William Penn has three guidance counselors, who serve the entire student body including House students.

Extracurricular Activities

Parent involvement activities are held on a regular basis each year. Prior to the beginning of the school year, parents and students are requested to attend a House orientation meeting. At the end of the first marking period in November, parents are invited to a dinner where they are given the opportunity to talk to their children's teachers. Midway through the year, parents are asked to attend an Open House at which time they tour House classrooms. Parents are also encouraged to join students on field trips to cultural events and universities.

Physical Facilities

The House of Masterminds has relatively ideal physical accommodations. It is situated on one floor which is divided into two wings by a central hallway. Each wing

has two clusters of four classrooms; one instructional team occupies each cluster. Students leave the House area for science classes which are held in laboratory space in another area of the building and also to attend elective classes. Offices and a large work area are located in each wing. The House coordinator occupies office space in one wing. Teams meet in workspace adjacent to these offices.

House Management

The House coordinator is relieved of two classes to manage House activities. The school district supports the formation of charter schools by providing two-fifths of a teacher position for each charter school leader. The House coordinator takes chief responsibility for curriculum and staff development. She is also a member of the principal's cabinet. Of crucial importance is the fact that she also takes part in all major decisions that affect the creation of the school's master schedule since it must accommodate the House schedule. Formerly, these decisions were made by the program chair in consultation with the heads of the academic departments and reflected the preeminence of the department structure. As charter schools have taken hold, however, the House coordinator's participation in scheduling reflects the fact that the success of charters depends on their having at least equal standing with departments.

Professional Development

The Temple University Center for Research in Human Development and Education (CRHDE) provides assistance to Philadelphia schools within the context of specially funded projects. Two staff members with expertise in classroom instruction and school organization serve William Penn. The instructional specialist offers staff development on a weekly basis and during the summer in support of the goals of individualizing instruction and teaming regular and special needs instructors. The organizational specialist participates in school-level program planning.

Appendix: Additional Resources for Planning

Education Reports that Recommend Small Unit Organization

Carnegie Foundation for the Advancement of Teaching. (1988). *An imperiled generation*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Children's Defense Fund. (1988). *Making the middle grades work*. Washington, DC: Children's Defense Fund.

Committee for Economic Development. (1987). *Children in need: Investment strategies for the educationally disadvantaged*. Washington, DC: Committee for Economic Development.

Goodlad, J. (1984). *A place called school*. New York: McGraw-Hill.

National Coalition of Advocates for Students. (1985). *Barriers to excellence: Our children at risk*. Boston, MA: National Coalition of Advocates for Students.

New York City Board of Education. (1988). *The middle school task force report*. New York, NY: New York City Board of Education.

Description and Analysis of Small Unit Organization

Felner, R., & Adan, A. (1988). The school transitional environment project: An ecological intervention and evaluation. In R. Price, E. Cowen, R. Lorion, J. Ramos-McKay (Eds.), *Fourteen ounces of prevention: A casebook for practitioners* (pp. 111-122). Washington, DC: American Psychological Association.

Oxley, D. (1990). *An analysis of house systems in New York City neighborhood high schools*. Philadelphia, PA: Temple University Center for Research in Human Development and Education.

Plath, K. (1965). *Schools within schools*. New York: Teachers College, Columbia University.

Sizer, T. (1992). *Horace's school: Redesigning the American high school*. Boston, MA: Houghton Mifflin.

Studies of School Size

Bryk, A., Lee, V., & Smith, J. (1990). High school organization and its effects on teachers and students: An interpretive summary of the research. In Clune, W., & Witte, J. (Eds.), *Choice and control in American education, Vol. 1: The theory of choice and control in American education*. New York: Falmer Press.

Crain, R., & Strauss, J. (1986). *Are smaller high schools more or less effective?* Baltimore, MD: Center for Social Organization of Schools.

Garbarino, J. (1978). The human ecology of school crime: A case for small schools. In E. Wenk, *School crime*. Davis, CA: National Council on Crime and Delinquency.

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Gottfredson, D. (1985). *School size and school disorder*. Baltimore, MD: Center for Social Organization of Schools, Johns Hopkins University.

Lindsay, P. (1982). The effect of high school size on student participation, satisfaction, and attendance. *Educational Evaluation and Policy Analysis*, 4, 57-65.

Pittman, R., & Haughwout, P. (1987). Influence of high school size on dropout rate. *Educational Evaluation and Policy Analysis*, 9, 337-343.

Benefits of a Core Curriculum

Powell, A., Farrar, E., & Cohen, D. (1985). *The shopping mall high school*. Boston: Houghton-Mifflin.

Sizer, T. (1985). *Horace's compromise*. Boston: Houghton-Mifflin.

Failure of Special Needs Programs and Academic Tracks

Grannis, J. (1991). Dropout prevention in New York City: A second chance. *Phi Delta Kappan, 73*(2), 143-149.

Oakes, J. (1985). *Keeping track: How schools structure inequality.* New Haven, CT: Yale University Press.

Oxley, D. (1988). *Effective dropout prevention: The case for schoolwide reform.* New York, NY: Public Education Association.

Wang, M., Reynolds, M., & Walberg, H. (1988). Integrating the children of the second system. *Phi Delta Kappan, 70*, 248-251.

Table 1
Essential Features of Small Unit Organization

Instruction

Small Unit Structure

- All students and staff are organized into units of not more than 500 students for instruction;
- Units are not based on differing abilities;
- Students remain in the same unit across grade levels;
- The curriculum is common to all students; academic tracks and specialized programs are integrated into regular classes.

Sub-Unit Structure

- Each unit is subdivided into instructional units containing an interdisciplinary team of teachers who share a group of students in common for instruction;
- Teacher teams coordinate instruction across subject areas;
- The day/week is structured to give teams time to meet as a group;
- Teacher teams meet with parents;
- Teacher specialists work with instructional units.

Student Support

- Instruction and student roles are integrated;
- Each teacher serves as an advisor to one class of students in his/her units;
- The day/week is structured to allow advisors to meet with their advisees;
- Guidance counselors work with instructional unit.

Co-curricular Activities

- Co-curricular activities are organized within each unit.

Physical Facilities

- Unit classrooms and office space are located in adjacent areas of the school building.

Unit Management

- Each unit is coordinated by an instructional leader;
- Unit coordinators are members of the school governance body.

Table 2
Koln-Holweide Comprehensive School
9th Grade Student Schedule

Time	Period	Monday	Tuesday	Wednesday	Thursday	Friday
8:15-9:00	1	Special Courses* (Organized across teams)	Free Learning	Free Learning	German	Special Courses (Organized across classes)
9:00-9:45	2		Social Studies	Social Studies	English	
9:50-10:35	3	German	English	Art/Music	Special Courses (Organized across teams)	Turkish/Religion
10:35-11:05				BREAK		
11:05-11:50	4	Chemistry	Special Courses (Organized across classes) Subjects: French/ Natural Science/ Technical Work	Art/Music	Social Studies (Sex Education)	Mathematics
11:50-12:35	5	Chemistry	Special Courses* (Organized across teams)	English	German	Sports
12:40-13:25	6	Sports	no class	**Midday**	Mathematics	Sports
13:25-13:55	7	**Midday**	no school	**Break**	**Midday**	no class
13:55-14:40	8	**Break**	no school	Tutorial	**Break**	no class
14:45-15:30	9	Mathematics	no school	Free Learning	Biology	no class
15:30-16:15	10	Free Learning	no school	Free learning	Biology	no class

*Spanish, Latin, Turkish, Natural Science, Technical Science, Pedagogy, Philosphy, Art/Music, Domestic Science, Sports, Career Studies, and Computer.

Table 3
Koln-Holweide Comprehensive School
9th Grade Teacher Schedule (Subjects: English/Art)

Time	Period	Monday	Tuesday	Wednesday	Thursday	Friday
8:15-9:00	1	—	Free Learning Class 9.3*	Free Learning Class 9.3	English Class 9.3	—
9:00-9:45	2	—	English Class 9.2	Free Learning Class 9.3	English Class 9.1	—
9:50-10:35	3	English Class 9.3*	English Class 9.1	Art (alternately in Classes 9.1, 9.2, and 9.3)	—	English Class 9.3
10:35-11:05	BREAK		Break supervision	BREAK		
11:05-11:50	4	(team teaching) Chemistry Class 9.1	—	Art (Changing every 6 weeks)	English Class 9.2	—
11:50-12:35	5	(team teaching) Chemistry Class 9.1	—	English Class 9.1	Chemistry Class 9.3	—
12:40-13:25	6	Sports	no class	**Midday Break**	Chemistry Class 9.3	—
13:25-13:55	7	**Midday Break**	**Conferences** - Grade Level - Team - Department - All Faculty - etc.		**Midday Break**	—
13:55-14:40	8			Tutorial Lesson Class 9.3		—
14:45-15:30	9	English Class 9.2		Chemistry Class 9.2	Art	—
15:30-16:15	10	—		Chemistry Class 9.2	Art	—

*The 9th grade team's classes are labeled 9.1, 9.2, and 9.3

Table 4

William Penn High School
House of Masterminds
9th Grade Student Schedule

Time	Period	Monday	Tuesday	Wednesday	Thursday	Friday
8:39-9:28	1	Math	Science	English	History	Seminar
9:28-9:52	ADVISORY					
9:52-10:41	2	Science	Math	History	English	Seminar
10:41-11:30	3	Science	Math	History	English	Seminar
11:30-12:19	4	PE/KEY	PE/KEY	PE/KEY	PE/KEY	PE/KEY
12:19-12:49	5	Lunch	Lunch	Lunch	Lunch	Lunch
12:49-1:38	6	English	History	Math	Science	Seminar
1:38-2:32	7	History	English	Science	Math	Seminar

Table 5
William Penn High School
House of Masterminds
9th Grade Math Teacher Schedule

Time	Period	Monday	Tuesday	Wednesday	Thursday	Friday
8:39-9:28	1	Math A*	Math B	Math C	Math D	Seminar
9:52-10:41	2	Math B	Math A	Math D	Math C	Seminar
10:41-11:30	3	Math B	Math A	Math D	Math C	Seminar
11:30-12:19	4	Prep	Prep	Prep	Prep	Prep
12:19-12:49	5	Lunch	Lunch	Lunch	Lunch	Lunch
12:49-1:38	6	Math C	Math D	Math A	Math B	Seminar
1:38-2:32	7	Math D	Math C	Math B	Math A	Seminar

*The 9th grade team's classes are labeled A, B, C, and D.

Temple University Center for Research in Human Development and Education

The Temple University Center for Research in Human Development and Education (CRHDE) is an interdisciplinary center for the study of emerging problems and challenges facing children, youth, and families. Its overall goal is to investigate the basic forces that affect human development as well as educational processes and outcomes. An important focus of the Center's work is the identification and shaping of effective responses to these forces through far-reaching changes in institutional policies and practices.

The problems and challenges facing children, youth, and families stem from a variety of cultural, economic, political, and health pressures. Their solutions are, by nature, complex. They require long-term programs of study that apply knowledge and expertise from many disciplines and professions. To this end, the Center draws together the many resources of Temple University and a wide range of national, state, and regional programs. The result is interdisciplinary and interdepartmental collaborations that involve investigations of social, economic, educational, and developmen-

tal factors and demonstration of state-of-the-art models for training and for delivery of relevant services. Research and development projects in these areas reflect a commitment to enhance the knowledge base for improving the quality of life for children and families, particularly in urban environments.

The work of CRHDE is divided into four program units: Improving Instruction and Learning in Schools, which provides technical assistance and training for innovative school programs; Social Service Delivery Systems, which develops models for effective social service delivery; Studies of Child Development and Early Intervention, which conducts pre-school diagnosis and produces innovative program development; and the National Center on Education in the Inner Cities (CEIC), funded by the U.S. Department of Education's Office of Educational Research and Improvement, which has undertaken a program of research and development as well as dissemination that takes bold steps to mobilize and strengthen education and related resources to foster resilience and learning success of children, youth, and their families in inner cities.